

MITSUBISHI HEAVY INDUSTRIES ENGINE & TURBOCHARGER, LTD

EXECUTIVE ORDER U-R-035-0383New Off-Road

Compression-Ignition Engines

Pursuant to the authority vested in California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2021	MMVXL01.0EDB	1.0	Diesel	3000		
SPECIAL	FEATURES & EMISSION C	ONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION			
Indirec	t Diesel Injection, Electron	ic Control Module	Pump, Compressor, Generator Set, Excavator			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION		EXHAUST (g/kw-hr) OPACITY (%)							6)
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
8 ≤ kW < 19	Tier 4 Final	STD	N/A	N/A	7.5	6.6	0.40	20	15	50
		CERT			6.9	3.4	0.25	2	2	3

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed on this 3rd day of August 2020.

Allen Lyons, Chiel

Emissions Certification and Compliance Division

ATTACHMENT 1 OF 1

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (fo <u>r</u> diesels on <u>ly)</u>	6.Torque @ RPM (SE <u>A</u> Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930	
MMVXL01.0EDB	L3E-P13-2	L3E	17.7HP@2400	18.7	7.5	38.7@2400	18.7	7.5	EM,IFI,ECM	
MMVXL01.0EDB	L3E-P9-2	L3E	12.5HP@1800	18.6	5.6	36.3@1800	18.6	5.6	EM,IFI,ECM	
MMVXL01.0EDB	L3E-P13-3	L3E	17.7HP@2400	18.7	7.5	38.7@2400	18.7	7.5	EM,IFI,ECM	
MMVXL01.0EDB	L3E-P9-3	L3E	12.5HP@1800	18.6	5.6	36.3@1800	18.6	5.6	EM,IFI,ECM	
MMVXL01.0EDB	L3E-P13-4	L3E	17.7HP@2400	18.7	7.5	38.7@2400	18.7	7.5	EM,IFI,ECM	